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The Southern Agriculturist.

(NEW SERIES.)

Vol. VI. FOR APRIL, 1846. No. 4.

From the South-Carolinian of the 19th February, 1846.

TO THE PLANTERS AND FARMERS OF SOUTH-CAROLINA.

At the late meeting of the State Agricultural Society, the following Resolution was adopted, viz: "That the President be requested "to communicate to the public, before the planting season, such "information as he may possess, or which it may be in his power "to collect, in relation to the means of modifying the effects of "drouth on Indian corn and other provisions."

It is necessary for me to premise, that what I shall say concerning the use of the plough, is mainly derivative. From several causes, the planters of the Sea Islands are but slightly acquainted, in practice, with the value of this great agricultural implement. To give the experience of the highest authorities, is, therefore, on my part an imperative obligation. It is proper also I should in this place observe that, in consequence of assiduous endeavors to obtain facts from supposed reliable sources, in which I have signally failed, this communication, which would have been made at a much earlier period, has been delayed, but not too late, it is hoped, to be wholly unprofitable.

Satisfactorily to elucidate the matter of the Resolution, would involve a minute examination of many of the topics connected with the science of husbandry. As I am certain, however, it was not designed or intended that no remarks should take so wide a scope, I shall only briefly advert to those principles and their operation upon which some of the most valuable results in husbandry rest.

All the earths have a considerable attraction for the fluid which the atmosphere contains. The very best soils possess this power in the highest degree; hence, it may with certainty be assumed that the measure of their fertility depends chiefly on their capacity to absorb moisture. In determining their value, however, on that hand, two other properties have to be noticed,—the quantity of water which is essential to their saturation, and the power of retaining it. In all these respects, clay and sand occupy antagonistic relations. The former imbibes the aqueous vapors like sponge and parts with them reluctantly; when dry, it constitutes a compact mass; from the closeness of its texture the dissolvent action of the air is excluded, by which putrefaction is retarded. The latter is friable and a septic, from the solidity of its particles and their want of coherence,

water filters easily: In the adoption of expedients by which to secure these earths a supply of moisture, different processes, in part only, it is advisable to pursue. From their predominance in the State, I shall direct my attention prominently to clayey or aluminous soils. What then, are the means which reason and experience assure us are the best calculated to attain the end in view? I answer, deep ploughing; thorough pulverization of the soil; abundance of manure; and the use of salt and retentive atmospherical absorbents.

1. *Deep ploughing.* The roots of plants should be allowed to extend themselves in every direction. The deeper they penetrate, and the wider their ramifications, the greater will be the absorption of nourishment. The average depth of good soils is about six inches. Every inch added increases its value eight per cent.; so that a soil where the vegetable layer is twelve inches thick, is worth half as much again as that in which it is only six inches.* It is consequently obvious that whatever, from this cause, may be its enhanced value, if not reached at some time in the progress of cultivation; the remainder is in effect a *caput mortuum.* By deep ploughing the capacity of the whole soil is called forth. While it enables the earth, through the agency of air and water, to inhale atmospherical manure, by diminishing the force of the sun's rays it leaves materially its exhalations. Should the substratum, which perhaps in every instance contains the principle of fertility, be broken, still, as a general proposition, the most signal benefits, prospectively, if not immediately, may confidently be expected to enure from the operation. Deep ploughing insures the greatest product from the smallest given quantity of land. If by the use of one-half of the soil, ten bushels of corn per acre be obtained, it is reasonable to infer, all other circumstances being equal, that were the whole in tilth, twenty bushels would be harvested; indeed a much larger quantity ought to be the result, for the deeper the soil the greater will be the number of stalks, and the larger and more numerous the ears. The maize, says Taylor, "is a little tree," possessing roots correspondent to its size, penetrates a depth almost incredible—nine feet, it is known, have been reached. It follows that where, from the vigor of the plant or the friability of the land, the roots meet with no obstruction, the consequences of drought will be sensibly diminished, if not entirely prevented. It is believed that the rolling of the leaves of corn is attributable solely to the absence of moisture. This is an error. Scanty manuring or shallow tillage is as often the true cause.

To render deep ploughing† effectual, it should take place in autumn. The expansive power of frost, and the mollifying influence of air and rain, and the action of these in breaking the continuity of fibrous matter, are strong reasons in favor of the practice. Whether it should be done once in two or three years only, which, I believe,

* Thaer. † About 12 inches.

is the opinion of the most successful farmers of Great Britain, or annually, as is common in parts of our country, is certainly as yet an undetermined point.

2. *Pulverization.* The soil must not only be made easily accessible to the descent and spread of the roots, but there should be such a disintegration of its parts, as to allow the free transmission of air. However rich in ingredients, these afford no nutriment to vegetation, until subjected to the combined action of heat, air and moisture—the great agents of decomposition. Unless freely supplied with oxigen, the remains of animals and vegetables do not decay, but they undergo putrefaction. "The frequent renewal of air by ploughing and the preparation of the soil, change the putrefaction of the organic constituents into a pure process of oxidation; and from the moment at which all the organic matter existing in a soil enters into a state of oxidation or decay, its fertility is enhanced."* In a well compounded soil, water is presented to the roots by capillary attraction. As this increases in proportion to the smallest of the particles of earth, the advantage of their complete pulverization is plain. It is equally true, that as food for plants must exist in solution, it is requisite to admit water to the roots by artificially reducing the compactness of the soil by tillage. From frequent working, therefore, the most favorable results may be anticipated; indeed, it has been well observed, that a good stirring of the ground in dry weather is equal to a shower of rain; for however strange it may seem, while it promotes moisture, desiccation is prevented. To aid in the increase and preservation of atmospherical vapor, the ridge system is especially recommended. The breaking up of the old furrows deeply, and making the new ridges on them, by which the two interchange places, provide a quantity of finely divided earth much greater than what is obtained in the ordinary mode. While the coming up of the corn is thereby facilitated, and the thirfty condition of the young plants secured, the depth at which the seeds of grass and weeds are deposited, prevents their germination, except in small numbers; hence labor and time in the culture of the crop are saved. In relation to maize, the author of "Arrator" sums up the advantages of high ridges and deep furrows in substance as follows: The roots are never cut in one direction, and this great depth of tilth thus early obtained, by superseding the occasion for deep ploughing in the latter period of its growth, saves them in the other. The preservation of the roots, and deeper posture, enable the corn much longer to resist dry weather. Litter thrown into the deep furrow upon which the list is made, is a reservoir of manure, far removed from evaporation; within reach of the roots, which follow it along the furrows and calculated to feed the plants when in need of rain. The dead earth brought up by the plough from the deep furrow is deposited on each side of it, without hurting the crop on the ridge; further, by one deep ploughing, received by the corn,

* Liebig.

after it is planted, being bestowed upon it whilst it is young, and its roots short, and being run nearly a foot from it, the roots of the corn in this way escape injury, and the effects of drouth on the plant being thus lessened, its product is increased.

It would appear from this condensed exposition of his views that, in the opinion of Taylor, one ploughing only, and that a deep and early one the growing crop requires. To clean and pulverize the soil, the harrow, skimmer, or cultivator, alone should be used. Each might advantageously be resorted to in any stage of its growth, but in a parched condition of the earth, their reviviscent tendency would then clearly demand it.

With regard to sweet potatoes, the plough may most profitably be employed at any time. When the shoots begin to wither, break up the space between the hills or ridges by running four furrows. The newly turned earth will be found wet in the morning, while before no moisture had been apparent. In a few days the leaves from being brown or yellow will assume a greenish hue, and new shoots ordinarily may be expected to follow.

3. *Manure.* The fertility of the soil is the first object to be attained by the farmer. For their dividing properties, all fossil manures are highly esteemed. Deep ploughing and lime, unaided by organic matter, it is well attested, have renovated, lands, that in the judgment of the former proprietors, were not worth the labor of cultivation. In reference to the special matter under consideration, a judicious admixture of soils is of primary importance. Clay applied to sand assists it in retaining manure, and receiving the vaporized water of the atmosphere. To allow the fibres of plants to shoot freely, clay, sand and lime, acting mechanically by their mixture, are mutual manures to each other. Burnt clay may beneficially be substituted for sand.

It has already been observed, that pulverized earth has a strong attraction for atmospheric vapor, and that this increases in proportion to the minuteness into which the particles are divided; but as the power of the most fertile soils, in this respect, is inferior to that of even the worst ordinary manure, it is evident, that "for the mere purpose of withstanding long continued dry weather, those plants whose roots have immediate access to organic manures, will be much better enabled to absorb the necessary supplies of atmospheric moisture, than those merely vegetating in the unmanured soil;" hence, whenever fertilizers are employed in anticipation of drought, or to mitigate its evils, in either case, the good to flow from their application to corn, will depend in a high degree upon their abundance, and the materials that compose them. The richer the ingredients and larger the quantity, more decided will be the benefit. Suppose in a propitious season, one acre, judiciously manured, to yield fifty bushels, and five acres, of the same natural strength, unassisted by art, ten bushels per acre; experiments and practice prove that in drought, the former produces generally not five fold, but seven or eight times as much as the latter. I may indeed assert,

that the difference in product will be commensurate with the heat and dryness of the weather.

Whether manures should be buried deep or shallow, or lie on the surface, and whether they should be spread in a rotted or unrotted state, are questions which the occasion does not require me to investigate. The tendency of decomposing animal and vegetable matter is to rise in the atmosphere; of fossil manures to sink. As it is known that coarse litter is better adapted to corn than any other crop: if employed when putrefaction has commenced, immediately before the period of committing the seed to the ground, or in the fall, in the shape of long muck, to allow the frosts, rain and wind of winter, to prepare it for the putrefactive process, every portion of the decaying and fermenting fertilizer will be gradually absorbed by the roots and leaves of the plants. All the facts that have come to my knowledge sustain conclusively the principles and reasoning I have advanced. I repeat that every rich ground rarely suffers materially for the want of water, especially if it has been properly divided and loosened by artificial means. If therefore, the withering power of drought should at any time show itself on poor land, let the farmer instantly apply putrescent manure on the surface of the ridge. To the spreading of compost without burying it over the cereals during their vegetation, the English attribute an almost magical influence. They assert that "the plants may almost be *seen* to renovate and regain their verdure." It is evident, says Thaer, that not only actual advantages, but also security against evil is to be derived from the possession of an active manure of this nature, and without any sensible diminution of its value. Though the quantity may be small, yet the beneficial results, first indicated in the change of color in the leaves, will soon appear. In the instance of a planter of this place, whose crop was in a perilous condition from the excessive dryness of the summer '44, one cart load only to the acre of stable manure, partially decomposed, was instrumental in producing a fine yield, while from the remainder of the field the harvest was very meagre. When the application was made, the corn had begun to tassil; the stalks were small and the leaves yellow and curled. Although the former never increased in size, the latter soon exhibited a healthy green. This favorable indication took place before the first shower of rain, which was slight, and occurred about a fortnight after the trial of the experiment. The secret of my friend's success is traceable to the fact that, as all fertilizers have a strong attraction for atmospherical moisture, he used the one, which of all others, in that respect, guano excepted, possesses the greatest power.

A prominent error in shouthern husbandry, is over planting. Manuring consequently as a system, is not practised. This alone is sufficient to account for the smallness of the agregate crop for the extent of ground annually in tilth. Reformation on this head is therefore loudly demanded. But until this ensue, what is to be done? In what way may the injurious operation of drought be

modified, as well by the ignorant as the skillful, the poor and the rich ?

4. *Salt.* In small quantities salt is a septic; in large quantities, it resists putrefaction. Though not strictly germane to the subject entrusted to my charge, I hope I shall be excused for here stating the estimation in which this substance is held by many observant agriculturists. It destroys, they maintain, noxious weeds and vermin; gives luxuriance and verdure to grass lands; prevents the scab in (Irish) potatoes; sweetens grass, and hastens the maturity of crops. Wheat and barley following turnips on land that had been previously salted, the ensuing crop, it is well authenticated, escaped the mildew. For a top dressing for grass land, six bushels per acre are recommended; for cleaning the ground preparatory to the putting in of the grain, sixteen bushels, it is said, may be employed upon fallows. An ounce of salt to a gallon of water benefits vegetables; a larger quantity gives a brown color, and is therefore injurious. As it is a stimulant, salt should be mixed with compost, mud or loamy earth. Its great capacity for inhaling atmospherical moisture renders it peculiarly valuable in dry and hot weather. For cotton, I have used it successfully at the rate of five pecks to the acre. Beyond that, its effects were adverse to the growth and production of the plants. Manure designed for corn, should receive, several weeks before it is put on the land as much salt as will furnish to every acre not exceeding one and a half bushels. If, however, none of the measures noticed in this communication have been adopted by this farmer, and his farm be suffering from the absence of rain, let him sprinkle on the ridge of each plant or hill as much well pulverized salt as he can conveniently take up with his thumb and two forefingers. In a short time, the result, from my own experience and that of some of my co-laborers, will be the same as though the ground had been recently moistened with a moderate shower. How long the benefit will continue I am unprepared to state, for after every experiment of my own, rain fell from ten to fifteen days. I can only assert that, in the interval, the salted portion of the field was in every respect, much superior to the remainder.

5. *Organic absorbents.* It is not merely necessary that atmospheric gasses should be inhaled by the agents which the vigilant care of the farmer may have provided, but to render his labors and knowledge more effectual, they must possess the additional merit of retaining them. The atmosphere is the matrix of manures; these, however, are so subtile and evanescent, that they quickly escape, unless elaborated into permanency by the use of vegetables, in a hardened form. The valuable properties of organic matter in a state of putrefaction, if buried in the earth, are absorbed by plants, and "exactly that portion of manure which is lost by the custom of rotting it before it is employed, becomes the parent of a great crop." The most common and yet the most esteemed retentive atmospherical absorbent, with which I am acquainted, is the leaves of the

pine.* When mixed with farm-yard or stable manure, especially if a little salt has been added, it forms a highly fertilizing compound. In attracting and preserving the gasses and vapor of the atmosphere, lies, however, its great virtue. In a drought, if applied a few inches thick around each hill of corn, considerable moisture, under the heaps, will be seen in twenty-four hours, and shortly afterwards, the field, should the farmer's operations have been so extensive, will prove the efficacy of this simple experiment. At the late session of the Legislature, a member of the Senate informed me that the last summer he employed pine leaves for his growing crop of potatoes with the happiest results. During the drought, he filled the alleys with this material. At the time of harvest potatoes were found on the earth below the trash.

Though unable to speak with precision of the difference between this section of his field and that on which no leaves had been placed, yet the product of the one was far greater than that of the other. To determine a question of vegetable reproduction, in 1841, near Brest in France, on a few rods of poor land, untilled, and which received no ulterior attention, grains of wheat were strewed, and then covered with wheat straw about an inch thick. In despite of excessive droughts during the spring, prolonged and several times repeated, while all around was drooping and uncertain, the protected wheat sustained no injury. When the plants matured, the straw was found to be "more than six feet high, and in the ears were fifty, sixty, and even eighty grains of wheat of full development." A satisfactory explanation of this experiment, remarks a French writer, is found in straw being a bad conductor of heat, and a good conductor of electricity. The roots consequently were maintained in a medium temperature, and the moisture of the earth furnished by the straw, facilitated the absorption of carbonic acid from the atmosphere. As pine leaves contain a much greater proportion of nutritive juices, they should always be used if obtainable, in preference to the straw or leaves of other trees for any crop.

Having already extended this communication to an unreasonable length, I will merely add, that the true and permanent interest of the agriculturist is to be found in preparing against the vicissitudes of the seasons, and not, in weak and uncertain attempts to mitigate their influence. Deep ploughing, loosening effectually, the texture of the soil and a bountiful supply of appropriate aliment, are the surest means for the accomplishment of that purpose. While a parsimonious use of manure is sure to develope slender returns, it promotes slowly but inevitably the deterioration of the land. It is better then, to cultivate a few acres to the plough, or laborer, furnished abundantly with enriching materials, than treble the number without nutriment. These truths were practically enforced, in the palmy days of Egyptian agriculture. The Roman husbandman was considered blessed who owned seven acres of ground.

*"Oak leaves," says Thaer, "are not easily decomposed, and contain an astringent matter which is highly injurious to vegetation as long as the leaf remains undecomposed."

In England, twenty or thirty acres constitute a good farm, and in China, for one-third of that quantity a large family is well supported. The grass lands in the immediate neighborhood of Edinburgh rent for $100 the acre. In West Cambridge, Massachusetts, manure to the value of $100 per acre is supplied by many of the farmers, and instances are not unfrequent of ten acres thus fertilized, yielding in money $5000* To us the full power of land is unknown; indeed, no where has it been ascertained that there is a limit to production. The period perhaps has arrived, when not only the advancement of their pecuniary welfare, but it may be, the preservation of the domestic institutions of the South, depends on a radical change in the habits and practices of the tillers of its soil. If in relation to this State, the distressing visitations of the last summer have the effect of arousing the attention of our agriculturists to the necessity of union among themselves, with a view to a free and full interchange of opinions in matters pertaining to their common vocation, they may yet have ample cause to be grateful to a merciful providence, for the calamity with which they have so recently and heavily been afflicted.

WHITEMARSH B. SEABROOK,
Pres. State Agricultural Society of S. C.

From the Genesee Farmer.

THE CULTURE OF INDIAN CORN, NO. II.

Continued from page 101.

As a general rule, subject however to some exceptions, we believe that about sixty bushels of corn can be grown per acre, at a cheaper rate per bushel than either a larger or smaller quantity. If we were under the necessity of buying the land and raising 300 bushels per annum of this grain for twenty years, we should use for that purpose five acres, no more nor less, as a matter of simple economy. With good culture, our land should be fertile enough to yield thirty bushels per acre without manure of any kind. In that case it would be our study to solve the important problem how to add thirty bushels more per acre to our annual crop, at the least possible expense. To do this, we should commence by applying to our five acre lot, all the mineral elements which Nature uses to form corn plants, so far as to yield forty-five bushels of grain per acre; calculating that about one-third of these minerals when dissolved, and ready to enter the roots of corn, would pass deep into the earth, or run off with the water, beyond the reach of the plants Certain it is, that *soft* water falling from the clouds, becomes *hard* on leaching through the soil, and when evaporated, leaves in a white deposit, the same salts, or minerals found in the ash of corn plants and other vegetables.

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* Farmers Register.

Let us now inquire, what amount of earthy minerals are necessary to form not merely forty-five bushels of corn, but the *straw*, or stems, leaves and cobs that must also be grown as a part of the crop? It is good corn that will give one pound of seed to three of straw. To make forty-five bushels, at 56 lbs. per bushel, will require 2520 lbs. of *something*. Multiply this sum by three, to get the weight of stalks, cobs, &c., and you have it at 7560 lbs. On drying these products thoroughly as chemists dry plants for analysis, seed corn will lose 10 per cent. of water, and well cured stalks 25 per cent. Substract the loss by evaporation, and there will remain 5,670 lbs. of dry straw, and 2,268 lbs. of grain.

We stated in our last number, that Dr. Dana found 1.31 per cent. ash in corn; and that Prof. Shepard gives only 0.9 per cent. M. Theodore de Saussure finds as the average of his analysis of this grain 1 per cent., which, as a sum between those stated by the two American chemists, we shall adopt. This will give 22.68 lbs. ash in 45 bushels of corn. Although Saussure gives a much larger quantity of ash in the straw of maize than Dr. Sprengel, still, there is reason (which we will not now stop to consider) to believe, that the analysis of the former chemists are more trustworthy than those of the latter. In 1000 lbs. of dry maize straw, de Saussure finds 84 lbs. of incombustible ash, which gives in 5670 lbs. corn stalks, 476.28 lbs. If we add the minerals found in the seed of this plant to those contained in its stems, leaves and cobs, the two will make within a small fraction, just 500 lbs. to 45 bushels. According to Saussure, 51 per cent. of the ash of corn is the phosphates of lime, magnesia, potash, and soda. The other 49 per cent. is made up of sulphates and chlorides of the above named bases, 1 per cent. of silicia, and a trace of iron.

In the ash obtained by burning maize straw, Saussure finds 14.70 per cent. phosphates; 4 per cent. sulphates and chlorides; 18 per cent. silica; 1 per cent. carbonate of lime; and the notable quantity of 59 per cent. carbonate of potash, (pearlash,) beside traces of iron and alumina.

Let us now sum up our mineral elements:

In the corn there are of phosphates, - - - - - -	11.50 lbs.
" straw 14.70 per cent. " - - - - - - - -	66.70 "
Straw and seed carbonate and potash, - - - - - -	295.00 "
" " sulphates and chlorides, - - - - -	30.00 "
" " oxide of iron, lime, alumina, - - - -	6.80 "
Silica, - - - - - - - - - - - - - - - - - -	90.00 "
	500.00 lbs.

It is worthy of remark, that the 90 lbs. of silica, (flint sand,) is truly a mineral acid, and combined, in the stems of corn and other plants with potash, soda, and lime. No part, probably, of the 295 lbs. potash exists in corn as a *carbonate*, but as a *neutral salt*, made

so by the union of some vegetable acid, which is changed into carbonic acid, by the combustion of the plant. Some may be disposed to doubt as to the fact of there being so much pearlash in corn stalks and cobs. Those that are old enough to remember when sal æratus was unknown, and pearlash was so scarce, that *cobash* had to be used as a substitute, will find less difficulty in believing the chemist. Does the reader inquire how many pounds of good hard wood ashes he must apply *in the hill and on it*, per acre, to yield 295 lbs. of potash to the crop? 100 lbs. of ashes put up in a leach tub and washed (lixiviated or leached) will lose from 10 to 20 per cent. of their weight by solution. Good beech, maple, hickory, elm, and oak ashes placed in the soil, will probably yield in the course of three summer months 40 per cent. of their weight of soluble salts. According to this estimate, 1250 lbs. will furnish an acre of corn plants with 500 lbs. of the salts of potash, soda, magnesia, &c. But will 1250 lbs. of beech or oak ash, yield 78 lbs. of the *phosphates* of those alkaline bases? This is an important inquiry.

According to Dr. Sprengel, 100 lbs. of the ash of red beech contains 5.62 per cent. of phosphoric acid. If we allow this acid to be combined with bases in corn stalks, in the same proportion as exists in the bones of animals, ($51\frac{1}{2}$ base to $48\frac{1}{2}$ acid,) then 100 lbs. of red beech ash, contain, within a fraction, 12 lbs. of the phosphates required by corn plants. This would give 150 lbs. in 1250 of beech ash. Allowing only 40 per cent. of these 150 lbs. of phosphates (bone earth) to be available, the corn plants would get only 60 lbs., while they would requre 78 for their development. The additional 18 lbs. of phosphates will be supplied in stable manure at a pretty cheap rate. 100 lbs. of *bones*, either ground or dissolved in a weak solution of sulphuric acid, will also supply the lacking phosphorous. Leached ashes will answer the purpose.

We should apply one half of the 1250 lbs. ashes in the hill at the time of planting, taking care to mix them with the earth, and the balance on the hill after the second hoeing. The first rain that fell would take the alkalies down among the roots of the plant just at the time and place most needed. Without going into all the minutia, let us assume that we have grown and harvested, by cutting at the roots, 60 bushels of corn per acre. Can we not raise our second and third crops, cheaper than we did the first? If you will allow us to save all the manure made from the corn stalks and cobs, we will raise the second, and all subsequent crops much cheaper, and you may carry the corn to England in any shape you please. But before we consider the best method of saving manure, we must investigate at some length in another article, the source from which corn, wheat and other cereals, derive their organized elements.

When you half give away, or waste your house ashes, please remember, practical farmer, that without *potash*, you can raise neither corn nor potatoes, nor wheat, nor grass, nor any other good crop.

From the Southern Cultivator.

CULTIVATION OF IRISH AND SWEET POTATOES.

A correspondent writes to us as follows:—"I would be glad if you would inform me through the columns of the *Cultivator*, of the best manner and time of planting Irish potatoes, sweet potatoes and ground nuts, together with the culture of them."

If the time were not so near at hand when these crops, to succeed well, ought to be in the ground, we would request some of our correspondents to give the information wanted. As it is, we must undertake to do what, we doubt not, might be far better done by others, that is, to comply with the above stated request.

Irish potatoes.—Our own practice, which has been very successful, is to prepare the ground well by stirring it very deep—new ground is by far the best—to make the rows three feet apart—the trenches nine inches deep—the manure three inches deep in the bottom of the trenches:—the manure must be perfectly well rotted, otherwise the quality of the potato is exceedingly injured. Coarse, unfermented stable manure, hogs' hair and such like is often used, and the result is waxy potatoes of very bad flavor, in some instances, even disgusting; and, we have no doubt, unwholesome as they are disgusting. If we would have the Irish potato in perfection, too much care cannot be bestowed on the food that is prepared for its sustenance. For seed we select large potatoes without knobs on them, cut them into pieces with one or two eyes at most; put these in the trench on the manure, nine inches apart, and fill the trench with rotten leaves from the woods, or rotten wood, or chip manure, which is better still. Plant from middle of February to middle of March, according as the weather may be. When the stalks are about nine or ten inches high, the whole surface of the ground is covered with wet leaves from the forest, up even with the top of the plant, packing the leaves close around the stem, and taking care to leave the top uncovered. Nothing more is necessary except to pull off all the blossoms as they appear.

To ensure good crops of good mealy potatoes, according to our experience, too much care cannot be bestowed on the following particulars:

1. The selection of kinds to be planted. We prefer the Mercers for an early, and the Bluenoses for a late crop.

2. The kind of ground they are to be planted in, the preparation of it, and the kind of manure used. Nothing more readily takes a tincture from coarse, filthy, unfermented manure. Even chip manure is improved for the use of the potato, by being mixed pretty liberally with the carbonate of lime.

3. The moisture of the ground.—Hence in part the excellence of the potato in Ireland and Nova Scotia. In our hot, dry climate, by covering the ground with leaves the same end is attained in some degree.

This is a brief account of our practice. Others have their own plans which they prefer. Mr. M'Coy, of Pendleton county, Virginia, makes 800 bushels to the acre in favorable seasons. He prefers a soil composed of sand and clay in about equal proportions, resting on a clay subsoil. "On such a piece of land, which has been in grass for a few years, I haul out (to use his own words, as we find them on page 59, February No. of Albany Cultivator,) in February or March, six four-horse loads of good stable manure to the acre, (about 80 bushels to the load.) The manure is immediately spread and turned under by inverting the sod to the depth of ten inches at least. About the last of April, spread on the inverted sod about three additional wagon loads of manure to the acre. Harrow the ground well lengthwise with the furrow. Cross-plough to the depth of four or five inches and harrow again. By this time the last manure applied is well mixed with the soil, and the land is in a fine state of tilth. The first of May mark out the ground in rows three feet apart each way, with a large two horse plough, to run as deep as the first ploughing. A good plan is also to let the bull-tongue plough follow in the furrows after the barshear plough. This breaks up and loosens the subsoil under the rows. A subsoil plough would, I suppose, do the work better, but we have none, and the bull tongue answers very well, as it loosens the soil and does not throw it up. We plant the '*long reds*,' using large potatoes for seed, cut into pieces, with about four eyes each, and put four pieces in a hill, which takes about twenty bushels of seed to the acre. The seed is thus planted deep on a loose mellow bed, and the ground after planting has a perfectly level appearance. The after culture is quite easy and simple. As soon as the plants are two inches above the ground, plough with a bull-tongue, as near to the hills as possible; if most of the plants are covered up, so much the better. In two or three weeks plough again both ways; by this cross-ploughing the earth is well loosened, and thrown up around the hills in a sort of hollow square, a little depressed in the centre, presenting a broad surface to receive the rains, and convey the moisture to the roots of the plants. The hoe is used to destroy such weeds as have escaped the plough, and to give the hills the proper form. Care is taken not to make those conical shaped hills, which used to be the fashion, so admirably calculated to carry off all moisture from the roots of the plants. * * * I have never tried planting in drills, and prefer hills on account of cross-ploughing, which I consider very important. I know that 800 bushels per acre can be raised by my plan, for I have done it three years in succession, 1842, '3 and '4.

Next, we have in the Southern Planter for February, a statement of Dr. Camm, of York county, La., of a "new mode of planting Irish potatoes," which he has tried and prefers to all others. The novelty of this mode consists in the use of a hot bed to start the shoots, and then taking the shoots off and setting them out in ground properly prepared, just as sweet potato vines are set out. He says

he has tested it for three years, and last year set out his whole crop in this way, and had six crops to succeed well, all of which were drawn from the same bed. It is very easy to try this new mode. We intend to try it carefully, and hope others will do so too, and report the result.

Sweet potatoes.—This crop, according to our experience, requires light, sandy soil, a long, warm summer, and plenty of rain in July, August and September. We prefer the yam and the red Bermuda to all other kinds; and to make a large crop we arrange so as to have the vines ready to set out immediately after the full moon in April—all danger of frost being then usually past. To do this, use is made of the hot bed, or forcing frame. Our frames were made according to the directions given on pages 10 and 11 of McMahon's American Gardener's Calender, and are managed as directed at page 12 and 20 of the same book. The potatoes are put in the hot bed about the first of March, and by the middle of April, even in the latitude of Athens, (Geo.) we often have vines two feet long. The ground to which they are transplanted is made rich with well rotted manure, and ploughed very deep. We prefer a deep sandy soil, in which there is plenty of vegetable matter in a state of decay. Ridges are made three feet apart, not more than six or eight inches high, so arranged as to run horizontally, and thus hold all the rain that may fall. As soon as all danger of frost is past, the vines are drawn from the potatoes in the hot bed, and planted in the ridges about a foot apart. By putting about a pint of water in the hole in the ridge opened to receive the vine, they will grow right off; so that if water can be had conveniently there is no need of waiting for a season, as they say. Indeed, we have found vines set out in this way, in a very dry time, and under a hot sun, grow better than those set out as they usually are.

Then as to cultivation: about the time the vines begin to spread rapidly, and if possible when the ground is wet, we fill in between the ridges with leaves from the woods. This is all the labor expended in cultivation except to pull out any grass or weeds that may spring up on the top of the ridges, the leaves effectually preventing any such growth between the ridges.

We are perfectly aware that the use of forcing frames is altogether unnecessary in all the country below the last falls of the rivers in South-Carolina, Georgia and Alabama; and even in the district of country immediately above that, on large plantations, it might not be profitable to use them. In such situations, the common hot-bed without glass may answer all purposes. But in the range of country in which Athens is situated and in all the country above that, inhabited as it is, more by farmers than by planters, and in which good potatoes are so seldom seen, we are confident the introduction of forcing frames would be attended with great benefit. Such, at least, is the result of our own experience. But in every situation, below the falls, as well as above, we are quite sure that the planting in ridges running horizontally, so as to retain all the rain that falls,

and the filling in between the ridges with leaves, will be found to be a very important improvement on the old plan of planting in hills, which we must think is the very worst plan that could be adopted.

Ground nuts.—Though the cultivation of this article is connected with our earliest recollections of field labor, yet we must depend on some of our correspondents to supply the information wanted.

From the South-Carolinian.

CULTIVATION OF SWEET POTATOES.

Messrs. Summer & Carroll,

Gentlemen:—I comply with your request, and accordingly proceed to answer your queries upon the "cultivation of the sweet potato." In doing so, I only give you my own practice. Doubtless, it may contain some errors; but being derived from experience of many years, I am inclined to recommend it, as generally correct.

I shall answer the queries in the order in which they present themselves.

Query.—What do you consider the best soil for the sweet potato?

Answer.—Both *roots* and *slips* do best on high and yellow soil. *Slips*, however, will do well on moderately low land, well drained, so as not to be injured by too much water. When planted on land of the latter description, I have generally found that slips do not keep as well; nor are they as sweet and mealy as when planted on high lands. New land, if the leaves upon it be well rotted, will answer well for either roots or slips; care, however, should be taken to burn the decayed leaves, on new land intended for roots. Unless this be observed, the excessive heat of the leaves undergoing fermentation, in the summer, will burn up the potatoes.

Query.—How do you prepare your land and at what *time?*

Answer.—The system of preparing land for sweet potatoes, by moveable cow-pens, I consider the very best. It saves time in carting out manure—more equally imparts the manure to the soil, and yields a greater return than any other mode of potato cultivation I have ever practised. You should commence running your cow-pen, just early enough, to allow you time to go over your land, by the time you are prepared for planting. This being done, the land will be found hard and compact. Mark it off into lines five feet apart, so as to give twenty one beds to the task. Run two furrows with the dagon plough down each line, and you will thus render the soil loose and mellow; and you may, now, bed up, so as to finish by the 20th of March, at which time the seed should be sown, not more than six inches apart. The most expeditious mode of sowing seed, is to drill the top of the beds with the hoe, and haul the dirt over the seed with the cover-boards.

If you have neglected to run the cow-pen over the land, manure well with either of the manures I shall mention; and list or cover immediately as spread out and proceed to bedding as directed above.

Query.—What is the best kind of manure for sweet potatoes?

Answer.—I have said in my last answer, that I consider running the cow-pen over the land, the very best kind of manure. When this has not been done, compost, cotton-seed, rotted trash and pond mud, are excellent, when properly applied.

The great principle in applying these manures is, to cover them well, and give them proper time to rot in the land before planting.

Cotton-seed, applied in the proportion of one to two bushels to the bed, and covered over in time to decompose, before planting, is good for either *slips* or *roots*.

Salt-mud, and even fresh mud, containing vegetable matter, are equally good when applied in proportion of *one* or *two* loads to the bed or task row. When mud is used, if soft, it should be spread out, so as to leave no *lumps*, and when dry, it should be well pulverized or chopped up fine. The mud is best upon high and dry soil; but it also does well upon other soils as the maturer of the roots.

Rotted marsh or trash, are also excellent when applied in proper quantities.

Oats, rye, or any other green crop ploughed or listed in, will act powerfully as manure upon potatoes. The stubble of oats, after the summer's gathering, has been tried with success.

Query.—How is the potato crop *worked* after planting?

Answer.—As soon as the potatoes are up, I proceed to take out all the *grass* and *weeds*, carefully picking the tops of the beds, so as not to disturb the roots of the young plants by pulling them out. As soon as the plants begin to put forth vines, the grass and weeds, ir there be any, should be again picked, and the dirt should now be brought up to the plants. If this work is well done, there is no necessity of any after working. The use of the hoe at this period, frequently does more injury than service.

Query.—What are the various kinds of sweet potatoes; which the most productive; and which keeps the best?

Answer.—The various kinds of potatoes I have planted, are the yams or Spanish, leather coats, brimstone with red and white skins, reds with white hearts.

The *yams* or *Spanish* potatoes, do well in land highly manured. They produce largely, but do not come very early. They are the best potatoes to keep. The *leather coats*, very much resemble the yams; and differ from them only in size and flavor—being larger and more mealy. In other respects, the same observations apply to these potatoes, as I have made upon yams.

The *brimstone* are an early potato, grow well in almost any soil; but do not keep as a provision crop.

The *reds* with white hearts, I have always found the earliest potato. They produce largely on any kind of soil—keep well, and as an early crop, are generally preferred by the negroes.

In conclusion, I would particularly recommend the leather coat potato, as the most *delicate* and best *flavored* potato for table use.

AN EDISTO PLANTER.

DEGENERATION OF POTATOES.

It has been repeatedly asserted that the reason why the potato is now suddenly attacked by a malady, which at one time threatened its extinction, is that it has degenerated; and on all sides we hear of recommendations that new varieties of the potato should be immediately raised from seed.

In this, as in all other matters, it is easy to make assertions; but before we give assent to them, we must ask for some proof of their truth. Do the gentlemen who clamor for new varieties, know which are the old varieties now cultivated, and which the new? Have they any proof that the old varieties have suffered in any peculiar degree, or that the new varieties have escaped? Can they point out any one instance among potatoes in which facts support their views? We think not.

Dr. Maclean, a gentleman skillful in all horticultural affairs, raised but the other day, a seedling potato of great vigor and excellence: its production is so recent that few persons yet possess it at all. With this variety, a portion of an old meadow newly trenched over, was planted in the autumn of 1844 and spring of 1845: no manure being used. The crop was so much attacked by the disease, that not a single potato was found worth preserving.

In reality there is no proof in any part of the vegetable kingdom that the races of plants wear out. Such an opinion was entertained, indeed, by the late Mr. Knight, and his views have been adopted by some physiologists. Yet there is not only no proof their correctness, but the strongest presumption to the contrary. It is superfluous to say that the golden pippin apple is the instance on which this theory mainly turns. It is said that it has worn out, and can no longer be cultivated. But the golden pippen still appears abundantly in Convent garden market; trees as healthy as ever are to be found in this country; we ourselves have seen it in Ireland, where there is no system of its decrepitude, and in Madeira it is in robust health. The wearing-out theory, therefore, falls to the ground.

PROF. LINDLEY,
Ed. Gard. Chron.

MODE OF INCREASING THE GROWTH OF POTATOES.

The flowers being cut off as they appeared on the plants, the number of potatoes produced was much greater than where the blossoms had remained untouched. Early in October, the stems and leaves of the plant which had not bore flowers were strong and green; the others yellow and in a state of decay. The plants which had been stripped of flowers produced (on the same space of ground) about four times the weight of large potatoes, very few small ones being found. Those on which the flowers and fruit were left, pro-

duced but a small number of middle sized potatoes, with a great number of little ones, from the size of a common filbert to that of a walnut.

We cut the above slip from one of our exchanges, and must not be considered discorteous if we entirely dissent from the views of those writers who advocate the clipping off the blossom from the potato plant with the expectation of increasing the crop. We consider it all "moonshine," but if any of our correspondents or readers can furnish us any thing tangible in the shape of *facts* in its favor, sustained by the authority of *name*, and *place*, we *think* we can give as many, condemnatory of the practice. [*N. Y. Far. & Mech.*

GEORGIA, OR BEAR-GRASS.

Lexington, Geo., February 28th, 1846.

Mr. Fleet:—Presuming that our Georgia bear-grass does not grow wild in your latitude, I take the liberty of sending you two wisps of the fibres of it, reduced by water rotting and rubbing in the hand, to the form of thread, as you see it. No tool of any sort has been upon it. Each wisp is the yield of a single blade of the bear-grass. Each stalk bears from one to two hundred blades, and the stalks can stand about three feet apart. Indeed, they cover the earth completely, and the blades are about three feet long. You can thus form some idea of the produce of one acre. It is beginning to be used in the south of Georgia and Florida for various purposes, such as rope, chair bottoms and horse collars, and the foregoing description applies to it as it grows in the sandy lands of the pine woods and hammocks of the Southern countries. In the clay lands of the upper counties it does not grow so large, though it does grow wild all over Georgia. It is a perennial, and thus has great advantage over hemp and flax—once planted, planted forever. It is evergreen: grows without culture, and on worn out lands that have been abandoned as useless for cotton and corn—can be cut water-rotted at all seasons of the year, winter as well as summer, owing to the warm climate, and is absolutely free from enemies. No insect whatever, neither worm nor bug, has ever been seen to prey upon it, while every leaf being a formidable bayonet, it defies cattle. Chair bottoms of extreme neatness and silky lustre are made of it; while the ropes made of it is fully equal in strength and beauty, the common Manilla cordage used for tying square cotton bales, and is used for the same purpose. It is a new article of culture, but is now attracting considerable attention in the south of Georgia, and adjoining parts of Florida. It works up with great facility, and it is pulpy, instead of woody and harsh, like hemp. Its culture at the South may be unlimited,—and if further use shew

that it may be substituted for hemp, Kentucky and Missouri may find, ere long, the millions of acres of overlooked, but fertile pine-lands in the south of Georgia and Florida more dangerous competitors than all Russia.

While I write, I have at my hand a bear-grass rope that is equal to the best Manilla, and far better than the common bale rope of Kentucky. Please examine the enclosed specimen, which has been made in the rudest manner by laborers who never saw a hemp stalk or hemp brake. If you deem it worth presentation before the Farmer's Club of the American Institute, I would be much pleased, as the judgment of so noble a body of experienced men, would be of great authority in this new enterprise.

With great respect, yours, &c.,
WILLIAM M'KINLEY.

Remarks,—The above specimens are about two and a half feet long. From their appearance, and from Mr. M'Kinley's description we are very favorably impressed with the great importance of this fibrous grass as an article of national importance.

[*N. Y. Far. & Mec.*

From the American Farmer.

SUMMER MANAGEMENT OF SHEEP.

Continued from page 104.

Shearing.—The pound in which the sheep are confined must be well littered with clean straw, pains having been taken previously to have the house in which the operation is to be performed thoroughly brushed out and cleaned. Thus prepared, the *shearer*, after catching the sheep, must throw the right arm around the body, grasping the brisket with his hand, then lift it, and with his left hand remove all dirt and straw which may be adhering to the feet. If the sheep is filthy about the tail, or any burs attached to the wool, these must be cut off at the threshold of the door. Then the sheep must be placed on that part of the floor assigned to him, resting on its rump, and himself in a posture, with one knee on a cushion, the back of the animal resting against his left thigh. The shearer then grasps the shears about half-way from the point to the bow, resting his thumb along the blade, which affords him better command of the points. He should then commence cutting the wool at the brisket, and, proceeding downwards, all upon the sides of the belly to the extremity of the ribs, the external sides of both thighs to the edges of the flanks; then back to the brisket, and thence upwards, shearing the wool from the breast, front, and both sides of the neck—but not yet the back of it—and also the poll or fore part, and top of the head. Now the jacket of the sheep is opened, and its position and that of the shearer is changed, by being turned flat upon its side, one knee of the shearer resting on the

cushion, and his other pressing *gently* the fore-quarter of the animal to prevent any struggling. The shearer then resumes cutting upon the flank and rump, and thence onwards to the head. Thus one side is completed. The sheep is then turned on the other side, in doing which great care is requisite to prevent the fleece from being torn; the shearer then acts as he did on the other side, which finishes the shearing. He must then take his sheep near to the door through which it is to pass out, and neatly trim the legs, and leave not a solitary lock any where as a harbor for sticks. It is absolutely necessary for him to remove from his stand to trim, otherwise the useless stuff from the legs becomes intermingled with the fleece wool.

In the use of the shears, let the blades be laid as flat to the skin as possible—do not lower the points too much, nor cut more than from one to two inches at a clip, frequently not so much, depending on the part, and compactness of the wool.

Interim between washing and shearing.—If the weather after washing be cold and cloudy, the shearing must not take place until it becomes settled and mild, as it is necessary that the yolk appear before the latter operation. If the weather be mild, in from a week to ten days, shearing may be performed. It should be recollected, that the *yolk* is nccessary to be present to confer softness and brilliancy to the wool, snd that shearing should be done in warm weather. If a cold rain or storm should occur during the operation, the shearing should be suspended, and those sheep which may have been shorn should be put under cover without delay; neglect of this precaution may prove fatal.

Sorting of sheep.—The period immediately after shearing is recommended as the one to be seized upon to select such sheep as may be intended to sell to the victuallers, as the quality and quantity of the fleece and form of carcass is then best determined. The fleeces of the most approved should be weighed, every particular noted, and a classification of the sheep be made. The wethers and dry ewes selected for sale should be turned out to good keep—nor should the same attention be spared towards all others of the flock.

Marking.—Before being turned out after being sheared, the initials of the owner's name should be painted upon the body of the sheep with lampblack and lin-seed oil, or as a substitute for the latter, hogs' lard—the lampblack being first killed with a small quantity of spirits of turpentine.

Rolling the fleeces.—After the shearer has done shearing, the fleeces must be carefully taken from the floor and put upon the rolling table, outside uppermost. The valuable loose locks must be all picked up—the useless stuff from the legs put by itself for manure.

The roller then proceeds to spread out the fleece, which cannot be too carefully done: he must separate the ragged portions from

the skirts and head, then make it as compact as possible by pushing from all sides to the centre. The loose wool is then to be thrown upon the fleece, which is followed by turning over the sides and ends so as to form an oblong stripe, say about two or three feet long and one and a half wide, which is moved to the front edge of the table: he then commences to roll the long side of the stripe, aided by a boy at the other end of it, who lay their arms flat from the elbow to press the wool as the rolling proceeds, till the stripe is reduced to six or nine inches in width, depending on the size of the fleece. The boy then mounts the table, and each commences rolling from the ends of the stripe till the parts meet, when the boy rolls his portion on top of his assistant's, firmly pressing it till the twine is passed round both ways and tied.

Arrangement of wool for sale.—Four or five tiers of fleeces should be placed upon top of each other, as nearly alike as to size as possible; the next pile one tier of fleeces up, and so on diminishing the succeeding piles one tier, till the last is reduced to a single one. In this way, the fleeces represent piazza steps, or more properly the ascending steps of an amphitheatre. This arrangement saves the buyer much trouble.

The flock master must honestly tag his sheep, cleanse their fleeces, and put nothing within them but the "clean thing." The practice of enclosing clippings in the fleece should be abated, nor should the fleece be tied with an unnecessary quantity of twine, no more should be used than may be required to confine it.

Shearing house and appendages.—Every flock-master should provide himself with a shearing house and pounds—the expense is trifling and convenience great. The shearing house will answer for a receptacle for the farm tools and implements when the shearing is over. The wool loft should be well lighted.

Baleing wool.—*Burlaps* is the proper materials for making the bales, the widest kind the best. Three yards make a bale. In packing the wool a hoop is used at the mouth of the bale, which is to be elevated off the floor.

Remedy for the sheep tick.—For 100 lambs use a decoction made of 5 lbs. of *plug*, or 10 lbs. of stem tobacco, which is to be boiled so as to make thirty gallons. Put this decoction into a half hogshead —upon one side of which fasten a rack to rest the lambs after immersion, in order that the liquor may drain from them. The lambs must be held by the head and dipped to the ears. Care must be taken that none of the decoction passes into the eyes or mouth.

Maggot fly.—To ward off the attack of the fly, a mixture of tar and turpentine may be applied about the ears, horns, and tail—or a mixture of butter and flour of sulphur, will answer.

Noxious weeds.—The flock-master must eradicate all noxious weeds from his sheep-walk, as the low laurel, St. Johnswort, burdock, thistle and tory plant.

(To be Continued.)

MINERAL *vs.* BARN-YARD MANURE.

Prof. Henry D. Rodgers, in his report on the Geology of New Jersey as copied by Prof. Hitchcock, says:

"Mr. Woolley manufactured a piece of land in the proportions of 200 loads of good stable manure to the acre, applying upon an adjacent tract of the same soil, his *marl* (green sand of N. J.) in the ratio of about twenty loads per acre. The crops (timothy and clover,) were much the heavier on the marled land, with this additional advantage, that the plot fertilized with the fossil manure was entirely free from *weeds*, while the stable manure had rendered its crop very foul."

This marl, according to Prof. Rodger's analysis, contains 10 per cent of *potash*.

Why, we ask, was one load of this "fossil manure" worth a good deal more than 200 loads of "good stable manure?"

Answer,—Because the former contained more of the essential mineral elements of timothy and clover than the latter. There was more *potash*, *lime*, and *phosphoric* acid in the twenty loads of marl, than in the 200 loads of stable manure. Hence it often happens that a farmer might be the gainer by exchanging 2000 lbs. of barn-yard manure for 100 lbs. of pure guano. [*Genesee Farmer.*

From the Southern Planter.

OATS—VALUABLE OF THEMSELVES, BUT DESTRUCTIVE TO LIGHT SOILS.

Mr. Editor:—Not many years since, it was the impression of many experienced farmers, that oats were not injurious to land, but on the contrary, an improver; why such an opinion at any time existed, I cannot conceive. It is now *generally* believed they are injurious to land, particularly, sowed in the usual way on light and spongy soils. I think I can satisfy any who are now of a contrary opinion, (if there be any,) that they not only injure land, but are, in fact, the greatest *destroyer* of any other crop, particular when sowed on land that has produced a corn crop the year previous, which is the general custom in this section of Virginia. The corn crop, all know, is an indispensable one, but notwithstanding, is a great draft to land, having to be worked so frequently, and there being little or no vegetation left on the land, to afford the least covering or protection from the winter's freezes and thaws. The first warm spell in February is considered the best time to seed oats; hence the land is again fallowed before the first sprig of grass has appeared, and sowed in oats; their growth is very rapid, requiring all the strength and power of the soil to sustain them, and during the excessive heat of summer they are harvested, and as there is much

loss in saving them, at best, stock of every description are let on to save those that otherwise would be lost.

Now, sir, the horses and cattle to graze and the hogs to root and leave the land thus exposed through two summers and winters, when or how long would you suppose it would require for this land to revert back to its productiveness previous to its being cultivated for corn and oats? Not in five years, is my opinion. It is different with the wheat crop; for it is the custom to sow wheat on a clover or some other fallow, and if it is intended to succed a corn crop, peas are now generally used as a fallow, (a capital one too,) and not unfrequently the poorest spots receive a top dressing of good manure in the spring, (no one thinks of top dressing oats.) The growth of wheat is not so rapid, and if sowed early, affords some little protection to the land during winter. I know of no finer food for stock, of all kinds, than oats, but it is my opinion it is the most costly of all grain crops, taking into consideration the price that is generally obtained for them in market, and their vast injury to land. It is my opinion they should only be raised on rather stiff soils, and if they *must* succeed a corn crop, peas should be used as a fallow in the fall (thereby imparting something to the land) previous to their being sowed the following spring, and clover seed never should be kept off, even at their present cost; and it is furthermore my humble opinion, that indolence and inattention, on the part of land owners, *common overseers*, and the oat crop, have done more to injure the lands in this section of Virginia, than the best system of agriculture could repair in twenty years.

Yours, truly, &c.,

COLEMAN.

Sussex, Dec. 15, 1845.

DO THE RACES OF PLANTS WEAR OUT?

BY PROF. LINDLEY.

It is true that when a tree or other perennial plant becomes unhealthy from old age, all the offspsing previously obtained from it by cuttings in all parts of the world become unhealthy too? Is such a doctrine a reasonable inference from known facts? or is it forced upon us by evidence although not deducible from mere reason? This is an important question to a labored advocacy of which pamphlets and newspapers have been lately abundantly brought into requisition. We have ourselves adverted to it incidentally, and on the present occasion propose to consider it in its various aspects.

1. No one pretends that the species of plants disappear. It is alleged on the contrary, that seeds renew the languid vigor of a species as often as they are sown; and that if an unhealthy plant is multiplied from seeds the immediate offspring become healthy. It

is also said that multiplication by seed is the only natural mode of propagation known among plants, and that all other kinds of increase are artificial and lead to debility.

It would, we think, be difficult to find an hypothesis more entirely at variance with notorious facts. That propagation by seed is a natural method of multiplication is doubtless true; but to say that no other natural means exist is absurd. The sugar-cane is rarely propagated by seeds; its natural mode of propagation is by the stem, which when blown down by the storm emits roots at every joint. Of this natural property man has availed himself as a means of artificially extending the plant. The tiger lily naturally propagates itself by bulbs formed in the bosom of its leaves; we never saw it form a seed. The Jerusalem artichoke naturally multiplies itself by its tubers, which are bodies of the same nature as the so-called root of a potato; no one ever saw it produce seed in this country. Every gardener knows that his Achimenes are principally multiplied by little scaly bodies resembling tubers, and that these are formed in such an abundance as to render seed unnecessary. In short we have not space for other instances of this, the denial of which could only arise from an entire unacquaintance with common facts. These examples sufficiently show that Nature does provide other means of propagating plants than seeds, and that tubers are one of those means.

As to the assertion that all other means than multiplication by seeds lead to debility, we must ask for the proof. The wild strawberry has been more propagated by its runners than by its seeds; and where do we find any sign of debility there? The Jerusalem artichoke was introduced before the year 1617; for nearly two centuries and a half it has increased itself entirely by tubers, and never by seed. Does any one find debility in that plant? Cough grass increases chiefly by its creeping roots; we wish we could adduce, at least, that one instance of failing vigor in a plant whose seeds are but little yielded. It, therefore, is not true that plants multiplied much, or wholly, by other means than seeds become on that account unhealthy.

Seeds, however, are said, in all instances, to produce healthy plants. But this, like the previous assertions, will not bear exact investigation. The health of a seedling depends entirely upon that of the seed. Under no circumstances will unhealthy seeds yield vigorous offspring; this is proved every day by what comes from grain debilitated by age. And there cannot be found a gardener, of any large experience, who does not know that seedlings will exhibit every diversity of constitution from health to decrepitude. Of the latter, Myatt's pine strawberry is a modern and striking instance.

We, therefore, regard the whole string of propositions now examined as entirely destitute of all foundation in fact.

2. What are called the varieties of plants are said to wear out. It is maintained that vegetable, like animal life, has its fixed periods

of duration, and that there is a time beyond which the debility incident to old age cannot be warded off. The inference from this is, that all the cultivated races of plants require to be incessantly renewed by seed, in the absence of which precaution they gradually become unhealthy, and unfit for cultivation.

The first person who proposed this theory was the late Mr. Knight, who, in the latter part of the last century, finding that the orchards of Herefordshire no longer contained health trees of certain varieties of apple, which were said to have flourished fifty years before, and failing in his attempt to restore health to such varieties by grafting, assumed that old age had overtaken them, and that they were incurable. Thence he extended the theory to all other plants: and here and there writers on vegetable physiology, rather out of respect to Mr. Knight's great name than from any correct examination of the facts for themselves, have blindly adopted his views. But reason and evidence are alike opposed to the conclusion, which seemed to have sprung out of a mistaken application of the laws of animal life to that of vegetables, and a desire to push analogy beyond its proper limits. [*N. E. Farmer.*

To be Continued.

ASHES AS A MANURE.

Mr. Editor:—I like your views on the subject of ashes as a manure. It is nearer to the true fertilizer of the soil than any other within the reach of the farmer. From my experience, I think a bushel of unleached ashes worth more than two bushels of plaster, on any crop—particularly if applied as a top dressing, and not on too low and wet land. Its operation is quick, and not perhaps as lasting, on the grasses as plaster—but, for summer crops, altogether preferable.

Its effect is better on loamy and sandy soils, than on clays. Mixed with plaster it operates well on corn—and with plaster and common soot, on wheat and grasses, sown the first dry days in the spring. It is the solvent for the silex or flint, that is the glazing and one of the components of straw, hay stalks, and the frame of every kind of grain that is cultivated.

Plaster costs about one shilling per bushel, and the ash men only pay eight to ten cents for ashes; and it must be very bad economy to sell ashes to buy plaster with. A mixture of plaster with ashes, sown broad-cast on corn before the first hoeing, operates just as well as applying it to the hills—at least such is my experience.

L———Y.

February, 1846. *Genesee Farmer.*

Liebig says, "any injury to health from the use of diseased potatoes is out of the question, and nowhere in Germany has such an effect been observed."

Communicated for the Southern Agriculturist.

ANALYSIS OF SOILS,—MARL, CLAY AND BURNT-MARSH.

By Charles Upham Shepard, M. D.

Professor of Chemistry in the Medical College of South-Carolina.

1. *Soils from East-Florida.*

These specimens were put into my hands by Col. Lewis, of Huntsville, Ala. They were collected with a view to illustrate the agricultural qualities of an extensive tract of country, owned by this gentleman. The region is situated about 70 miles southwest of St. Augustine, and is known as *Paine's* prairie. It is included in the Arredondo Grant, in latitude 29° 20', on the west side of Lake Orange.

Paine's prairie is 15 miles long, by an average of five in width. A part of it is liable to be overflown by the waters from the Pethlachucco, or Newman's lake, at which time its drainage takes place into Orange lake. This lake empties into the Ocklawaha, a tributary of the St. John's.

a. *Subsoil of the Country.*

Water of absorption,	8.50
Silica,	67.50
Phosphate of lime and magnesisa, with protoxide of iron, mostly the former,	15.00
Carbonate of lime and magnesia,	5.50
Alumina,	5.00
	101.50

b. *Soil from hammocks, or dry land.*

Water of absorption,	5.00
Organic matter,	12.50
Silica,	82.00
Phosphate of lime and magnesia, with traces of protoxide of iron and alumina,	1.00
	100.50

c. *Light peaty Soil from Tuscawillo Prairie.*

Water of absorption,	12.50
Organic matter,	48.25
Silica,	37.00
Protoxide of iron with traces of phosphoric acid,	1.00
Lime,	0.40
	99.15

2. *From a field between the Citadel and Mount Defiance at Ticonderoga, on Lake Champlain, N. Y.*

This soil has a light, chalky, grey color, and possesses an impalbably fine texture. It is based on black limestone.

Water of absorption,	5.20
Organic matter,	3.60
Silica, (or *quasi* silica)	78.00
Alumina,	4.40
Protoxide of iron,	3.80
Carbonate of lime,	1.70
Phosphate of lime and magnesia,	3.20
	99.90

3. *Soils from the land of J. D. Legare, Esq. at Aiken, S. C.*

a. *Surface Soil, color dark reddish brown: light and nearly impalpable.*

Water of absorption,	5.500
Organic matter,	8.500
Silica,	77.000
Protoxide of iron,	4.005
Alumina,	5.000
Lime,	0.050
With traces of magnesia and phosphoric acid.	
	100.055

b. *Subsoil. Fine. Color, Ochre-Yellow.*

Water of absorption.	8.00
Silica,	81.00
Peroxide of iron,	3.50
Alumina,	5.50
Carbonate of lime,	.40
	98.40
Traces of magnesia and loss,	1.60
	100.00

4. *Marl, from the land of Mr. Sims White at Moss Grove, near Monk's Corner, 35 miles northwest from Charleston, S. C.*

Water of absorption,	4.80
Carbonate of lime,	66.75
Phosphate of lime,	2.00
Silica,	23.60
Carbonate of magnesia, traces of peroxide of iron and loss,	2.84
	100.00

5. *Clay from land of Mr. Dyson, 15 miles from Sumterville, Sumter District, S. C.*

This is an ash colored, compact stone, with a conchoidal fracture. It breaks easily, and reveals occasionally, impressions of several tertiary fossils, common to the calcareous beds of the region. A dry mass of the clay adheres but slightly to the tongue; and when wetted, scarcely emits an argillaceous odor. Analysis shows it to be a dry, or silicious clay. It being too deficient in alumina for the purposes of pottery, it is difficult to suggest for it any useful application.

Water,	9.00
Silica,	77 50
Alumina,	2.30
Protoxide of iron,	9.90
Carbonate of lime,	1.30
	100.00

6. *Soils from the Sugar plantation of John Penny, Esq. from the estate of "White Hall," about 50 miles above New-Orleans, La.*

No. 10.

Water of absorption,	8.00
Organic matter,	7.00
Silica,	79.00
Alumina,	2.50
Protoxide of iron,	2.25
Lime,	,78
Magnesia and loss,	.47
	100.00

No. 3.—This is described as a very tenacious and stiff soil.—When dry, it is impossible to drive a plough through it. At certain stages of drought, in passing over it, it makes a crackling noise under the feet. The water, after rains, stands a long time upon its surface. Heretofore, it has not yielded good crops of sugar.

Water of absorption,	7.80
Organic matter,	4.20
Silica,	76.40
Alumina,	5.80
Protoxide of iron,	5.40
Lime, with traces of magnesia,	.60
	100.20

No. 1.

Water of absorption,	8.00
Organic matter,	5.20
Silica,	78.40
Alumina,	4.00
Protoxide of iron,	3.60
Lime,	0.76
Magnesia,	0.32
	100.28

No. 15.—This sample is from nearly new ground.

Water of absorption,	9.60
Organic matter,	9.20
Silica,	69.60
Alumina,	6.80
Protoxide of iron,	3.06
Lime,	0.76
Magnesia,	.32
	99.34

The following is an average view of the ingredients of these soils; and may perhaps be taken as a general formula for the composition of Sugar lands in Louisiana.

Water of absorption,	8.350
Organic matter,	6.400
Silica,	75.850
Alumina,	4.775
Protoxide of iron,	3.577
Lime,	0.725
Magnesia,	0,270
	99.947

It should be observed, that in these analyses, the protoxide of iron and alumina are given a very little too high, inasmuch as the phosphoric acid (present in them all) is estimated along with these ingredients. In the soils however, it was in combination with the lime and magnesia; although it is not supposed that these earths are present altogether, or even chiefly perhaps, as phosphates: they are partly saturated with carbonic acid, and possibly to some extent in combination with organic acids.

What is put down as silica also, does not consist of pure silicic acid; but rather of a mixture of this acid and certain insoluble silicates. To determine with accuracy the composition of this *quasi* silica (as it may be called) 17.48 grains of it from Soil No. 15, were

carefully decomposed by fusion with carbonate of soda, and found to contain,

Silicic acid, - - - - -	82.38
Alumina, - - - - -	10.80
Protoxide of iron, - - - -	5.15
Lime, - - - - -	0.91
Magnesia, - - - - -	0.68

From which result it appears, that the entire soil is constituted as follows:

Water of absorption, - - -	9.60
Organic matter, - - - -	9.20
Silica, - - - - -	57.60
Alumina, - - - - -	14.40
Protoxide of iron, - - - -	6.66
Lime, - - - - -	1.40
Magnesia, - - - - -	0.80
	99.66*

The specimens of these Soils were too limited in quantity, to allow an examination for the soluble salts they contain.

7. *Soils from Col. R. F. W. Allston's plantation, called Nightingale-Hall, on Pee Dee.*

No. 1.

Water of absorption, - - -	12.00
Organic matter, - - - -	8.00
Silica, - - - - -	63.50
Alumina, - - - - -	8.50
Protoxide of iron, - - - -	7.05
Carbonate of lime and magnesia, - -	0.45
	99.50

* It may here be interesting to see cited a recent analysis of the *Mud of the Nile*, by M. J. LASSAIGNE, (*Comptes Rendus* No. 17, April 22d, 1844.)

Water, - - - - - -	10.70
Organic matter, - - - - -	2.80
Silica, (pure silicic acid) - - -	42.25
Alumina, - - - - -	24.25
Peroxide of iron, - - - -	13.66
Carbonate of lime, - - - -	3.85
Carbonate of Magnesia, - - - -	1.20
Magnesia, - - - - -	1.05
	100.00

No. 2.

Water of absorption,	11.00
Organic matter,	9.50
Silica,	66.50
Alumina,	7.25
Protoxide of iron,	3.50
Carbonate of lime and magnesia,	0.20
	97.95

No. 3.

Water of absorption,	7.50
Organic matter,	15.00
Silica,	63.00
Alumina,	9.00
Protoxide of iron,	5.50
Carbonate of lime and magnesia,	0.13
	99.83

In the last of these soils, it is probable from the processes employed for determining the proportions of the water and the organic matter, that the latter is quoted too high, and the former in the same ratio, too low. It is an exceedingly close and tough soil, having, as will be seen on comparison, the highest content of alumina, among the three examples analyzed.

There is nothing remarkable in the soluble, saline ingredients of these soils. They each contain in very similar proportions, traces of chloride of calcium, sulphate of lime, and probably of carbonate of potassa. Phosphates also appear to be present in the small proportion, usual to such soils.

8. *Ashes from Salt marsh mud, from St. Simon's Island, submitted for analysis by James Hamilton Couper, Esq., of Hopeton, near Darien, Georgia.*

The specimen was accompanied with the following memorandum from Mr. Couper: "dug from a salt *black-rush marsh*, from the surface, to one and a half foot deep; stacked and burnt. The fire if possible, should be arrested at the charring point. This should be similar to the Dutch ashes of the agricultural writers, and of which they speak in most exaggerated terms.—*See Sir John Sinclair's Code of Agriculture.*"

The burnt-marsh is in light, porous, easily pulverized masses. It exhibits throughout, the earthy remains of the roots and stems of grasses. It adheres slightly to the tongue, at the same time impart-

ing a faintly saline flavor. The greater portion of the specimen had been over-burnt; the oxide of iron having been converted into the red or peroxide, and the whole of the carbon and organic matter dissipated. Enough for the analysis, however, existed in the sample, which was of a coal-black color. It contained as follows:

Water of absorption,		6.000
Carbon and organic matter,		11.000
Silica,		65.000
Alumina,		6.000
Protoxide of Iron,		5.500
Carbonate of lime and magnesia,		0.141
Soluble salts, mentioned in the supposed order of their prevalence.	Chloride of sodium, Chloride of calcium Sulphate of lime, Sulphate of magnesia, Sulphate of potassa, Ter-Sulphate of alumina, Carbonate of potassa,	5.839
		100.000

It must be obvious on the slightest consideration, that a compound possessing the chemical and mechanical constitution of the body above described, cannot fail of proving efficacious in agriculture. The usefulness of minutely divided charcoal when diffused through a soil, or amendment, has been frequently adverted to in this Journal. Scarcely less beneficial is it to present to plants, as is done in the employment of burnt-marsh, silica, which has already been organized; and which is therefore in a state to be readily conveyed into the circulation of the cereals, and the cultivated grasses. The saline ingredients present in the substance under consideration, also could scarcely be better adjusted, either as to their kinds or proportions.

The employment of burnt-marsh, however valuable as a fertilizer, will by no means supersede the use of active manures. Highly nitrogenized mixtures, together with such substances as contain the phosphates, must still be employed in conjunction with it, in order to ensure the most complete success. In concluding this notice of burnt-marsh, I cannot but call the attention of agriculturists anew, to a suggestion made a few years since in this Journal, by my colleague Dr. GEDDINGS, which was, to employ this substance as the basis of a *poudrette*. A more eligible compound for the use of the planter and horticulturist, I can scarcely imagine.

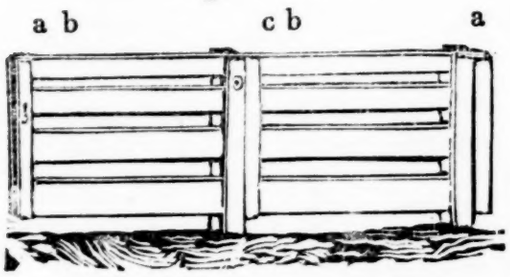
Charleston, S. C., March 20th, 1846.

From the American Farmer.

ARNON BAKER'S PATENT GATES.

We have seen this gate in use, and believe it peculiarly worthy the attention of the farmers and planters of this State.

Fig. 1.—Sec. 1.



a a Gate.
b b Roller posts.
c Cross bar.
⊙ Rollers.

Fig. 1.—Sec. 2.

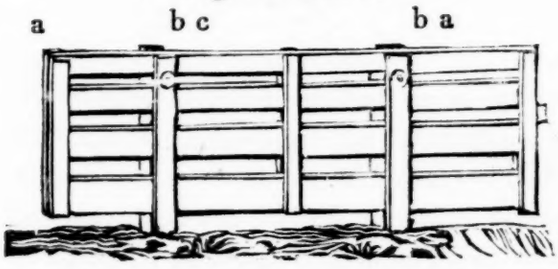
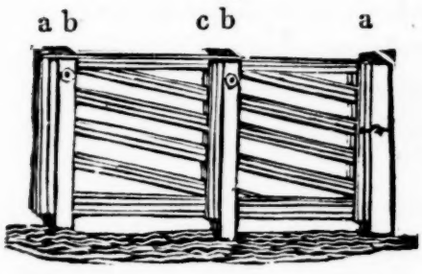


Fig. 2.



The great advantage to be secured by the use of the above gate is *cheapness of construction*, as they can be made and set at *one-half the expense of any other gate of equal durability*. The actual cost of these gates over and above the expense of two lengths of board fence will not exceed seventy-five cents. Farmers are referred to the above cut and explanatory table, which will enable any man who can use the saw and square to construct one in accordance with the plan.

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From the Southern Cultivator.

FENCING.

Mr. Camak :—I see in the first number of the Southern Cultivator, in the report made by the Committee on the Agriculture of Georgia, that they state that it behooves the Georgians to begin to think of some substitute for the common rail fence. I am now making an experiment that I have no doubt will succeed, and answer the purpose of the best kind of a rail fence. Wherever there is a fence that will secure the farm for three years, ridge up a bed of land inside of the fence, in the same manner that land is prepared for cotton, and open the ridge with a narrow plough, and if the land is very poor, open the ridge pretty deep and fill it with manure, and sow, or rather drill, China tree berries about the first of April. They should be drilled pretty thick, so that they may be sufficiently thick, and if they should come up too thick they can be cut out to a proper stand. In three years they will make a fence sufficiently strong to turn any kind of stock. I drilled about one-half mile last year. The weather was very dry for some time after I planted the berries, and they did not come up until late in May, but wherever the ground was properly prepared and moist, I have a fine stand. The best of them are from six to eight inches high. This year I shall plough and hoe them. I shall prepare this year about one mile more inside of my plantation, and I have no doubt that in three years they will answer the purpose as well, or better, than the best kind of rail fence. The China is a tree of quick growth, and flourishes finely in the Southern States. The berries should be covered about two inches deep. Persons living in an open prairie country would do well to make the experiment, as well as those who live where timber is inconvenient to be had.

Respectfully, yours, &c.,

JOHN GREEN.

Burnt Corn, Ala., January, 1846.

FENCING.

Mr. Camak :—I find short practical rules of immense benefit to the farmer. As the time for resetting old and making new fences is at hand, I present your patrons with a very short and simple rule to ascertain the number of rails necessary to do the amount of fencing needed.

Rule.—Measure around the ground to be fenced and multiply the number of *yards* by 4, and this gives the number of rails necessary to make a 10 rail fence over the ground measured.

Examples.—Suppose you desire to make a fence one hundred yards long. Then: $100 \times 4 = 100$, the number of rails required.

In a fence made by the above rule the stretch made by two pannels is fifteen feet, the base or width of the strip of ground occupied by the fence is $4\frac{1}{2}$ feet. The angle is about 120°.

The practical mode of laying this worm is to first stake off two lines, with the distance of 4½ feet between them, then prepare a rod 15 feet long, which is to be carried by the man who lays the worm, for the purpose of measuring between the corners. In laying let the ends of the rails cross precisely upon the two lines previously laid off 4½ feet apart. By this rule you have a fence which is commonly made in the country. But I think it is rather straight, and the base too narrow, and the number of rails too small (10) to the pannel to make either a handsome or strong fence; and, therefore, prefer the following

Rule:—Measure as before and multiply the number of yards by 5. For every 100 yards add 16 rails. This gives the number of rails to make a fence of 12 rails high, with 14 feet stretch and 5 feet base.

Example—Suppose it is desired to fence one hundred yards. Then: $100 \times 5 + 16 = 516$ rails required.

A fence made by this last rule, though it takes more rails, yet the farmer is well paid in the strength and beauty of his fence. The angle, in this instance, is about 108°, which makes a much handsomer crook.

Your friend, WALTON.

[*Southern Cultivator.*

WINDMILLS.

The Chicopee Telegraph describes very minutely a Centrific Windmill, lately constructed in that village by Mr. A. Judd, and considers the principles upon which it is constructed entirely new. We are inclined to think however, that the principle is very nearly the same as one which has been in operation for a considerable length of time in this city.

On Friday last we visited a new, and we think, highly valuable invention of Mr. A. Judd of this village, called a "Centrific Windwheel." For simplicity of construction and efficiency of action, it exceeds anything in the shape of a windmill, that we have ever seen. The principles on which it is constructed are entirely new; and the inventor in conjunction with Dr. J. B. Bridgman, who is joint proprietor, have obtained letters patent for the invention. The wheel resembles a common overshot or breast water wheel except its motion is horizontal; and is propelled by the application of wind upon the inner surface. By this application the entire circumference of the wheel is kept constantly before the wind, the whole force of which, is brought to bear square upon the lever, producing a power three or four times as great as any other wind wheel in operation. What adds greatly to the value of this wheel is the fact that it is enclosed in a building, and consequently entirely excluded from the weather. This, together with the simplicity of

its construction, must extend its durability almost beyond the power of calculaiton. The building is covered with strips of board, about a foot wide, hung upon pivots, and connected with rods on the inner side like common venician window shutters; and can be opened and shut at pleasure. By this arrangement, any quantity of wind can be admitted and excluded; and the wheel is as easily managed in a gale of wind as in a breeze; and is as completely under the control of the operator, as any water power. The building is two and a half stories high, the wheel being located in the upper half story. By opening the sutters to the windward, in the second story, and to the leeward in the upper half story, the wheel is set in motion by the passage of the wind up through the centre of the wheel pressing upon the inner surface of tne buckets. The wheel which the patentee has erected, is a temporary one, merely to exemplify the principles, fourteen feet in diameter, and seven feet high: and produces from one to five horse power according to the strength of the wind, and propels a grind stone, a circular saw, and he intends to add a pair of mill-stones for grinding provender. It operates admirably.

What constitutes the great value of this novel and highly ingenious invention, is the cheapness of its construction, and its consequent adaption to the almost infinite variety of objects for which power is required. It can be constructed of any size, to produce from one dog power to a hundred horse power; and from its simplicity and consequent ease of management, is brought within the reach of every farmer and mechanic. By its aid, the farmer may thresh his grain, saw his wood, draw water for his stock, cut his feed, grind his provender, churn his butter, grind his axes and scythes, &c. &c. The mechanic, by its aid, can propel his planing machines, his turning lathe, his trip hammer, his circular saw, grind his bark, split his leather, saw his shingles, grind his tools, slit out his stuff, saw his fellows, &c. &c. &c.

In fact, we can see no reason why it is not destined to become one of the most valuable inventions of this inventive age. And we sincerely hope and trust, that the ingenious inventor, and his enterprising partner, Dr. Bridgman, will receive that ample renumeration which is ever due, although not always awarded to genius and enprise. [*Boston Cultivator.*

A NEW MATERIAL FOR ROOFING.

We learn from the Philadelphia Ledger, through the communication of a 'Mechanic,' that a new method for roofing houses has been invented by two gentlemen of that State, which is more durable than shingles, slate, or tin, as brilliant as glass, fire proof and water proof, red, blue, green, or any other color that may be desired; a nonconductor of electricity, a reflector of heat, cheaper than tin, lighter

than slate; being vitrified, it is almost indestructible by time or weather, and so easily put on that the largest roof can be covered in a single day if desired. It requires very little descent; a roof covered with this materal may be made as flat as any tin roof without the least danger of leaking. Nothing short of actual violence will injure it. Should it come into general use, our cities will outshine the Kremlin of Moscow. When a house with a slate roof is on fire, the slates fly so that firemen are in great danger should they come near to it, but this article, having passed through the fire in the process of manufacture, is not liable to this objection; its durability is such that it will last as long as the house. [*Genesee Far.*

ADVANTAGES OF WHITE PAINT OVER BLACK.

Black being a color that absorbs nearly all the sun's rays, any object painted black becomes much hotter when it is exposed to the sun than if it had been painted white, or some light color. A decisive instance of the truth of this fact occurred in the case of H. M. ship Excellent, of 98 guns. This ship was moored east and west, by bow and stern moorings, consequently the starboord side was always exposed to the sun, both in summer and winter; in this situation her sides were painted in the usual manner of a ship of war, black and white, the greater part being black; this latter portion, on the starbord side, it was found impossible to keep tight; for as soon as one leak was stopped another broke out. At length it was suggested that painting her a lighter color might be of service; this was done; the leaks ceased, and they did not afterwards re-appear. This occurred in an eastern port, but the injurious effect of black paint must be much greater in tropical climes, where the rays of the sun are much more powerful. [*Boston Cult.*

DRESSING WOUNDS AND ULCERS.

Dr. Langier's method consists in applying, on the surface of the wound or ulcer, a solution of gum arabic, and on it a bid of goldbeater's skin; thus dressed, a wound an inch in diameter was reduced in the space of eight days to one-third or one-sxth of an inch in extent. Cicatrisation took place so rapidly that the granulations, covered with a thick epidermis, were as numerous and visible as before, but could be touched without causing pain. A wound, produced by amputation of the breast highly inflamed, about four and a half inches in length and one and a half in breadth, under this treatment, healed rapidly, and purulent secretion did not take place. He proposes applying this method to a wound left by amputation of the thigh. [*Medical Times.*

TALLOW AND TRAIN-OIL AS A SALVE FOR SHEEP.

In the Highland and Agricultural Society's Transactions for 1844, pages 271–273, an article appeared, recommending the use of tallow and train oil, in equal parts, as a salve for sheep; and, in reference to that article, a gentleman in Argyleshire, skilled in the management of sheep, writes as follows, under date the 9th July last: "The salve I used for my sheep last autumn, (viz: one half tallow to an equal proportion of train-oil,) has, in every respect, answered the description given of it in the Society's Transactions; and one of my tenants whom, with some persuasion, I got to smear thirty of his flock with that mixture, admits that they are in better condition than any of the others; that the wool will weigh as heavy as that done with tar and butter; and that he will get the price of white wool for it. The expense last year was a little greater than tar and butter, as I paid 1s. 6d. a pint for oil, and 6d. a pound for tallow, but this year I shall get oil for 1s. a pint, and if a quantity is required, at probably a lower price. [*Edinburgh Jour. of Agricnlt.*

TRANSPLANTATION OF TREES.

There is a degree of misconception on this subject that is truly astonishing, when the exercise of a moderate portion of common sense is all that is requisite to form a correct judgment. In the first place the trees and even the most delicate plants of the temperate zone can be sent from our country to Europe with perfect safety, and even to cities in the interior, such as Warsaw, Vienna, &c., to which there are several hundred miles of land carriage after arrival in Europe, and yet we have frequent inquiries whether trees and plants will bear transportation to the different States of our Union. Many persons residing in States south of us have also very erroneous notions as to the suitable seasons for transmitting trees and plants to them. The months of November to March are perfectly safe for forwarding trees and shrubbery as far south as Charleston, and November to January, to New Orleans. The period of transplantation commences here the 1st of October, and extends to the 1st of May for the different sections of our country. Trees cannot advance materially in vegetation here until the middle of April, and it matters not how far advanced they may be at the places where they are planted, even if it were midsummer, provided they are sent from a place where vegetation is dormant, and the voyage not so long as to start their growth on their passage. Grapevines being very late in vegetating may be safely transported a month later than the period named for trees.

Roses being very tenacious of life can be transplanted during the whole period that their vegetation is dormant, and when cultiva-

ted in pots, they may be safely sent in the pots, or by being turned out and mossed at all seasons. Green-house plants can be sent safely throughout the year. Dahlias, bulbous roots, and herbaceous plants from October to May inclusive. WM. R. PRINCE.

[*N. Y. Far. & Mech.*

VEVAY VINEYARD.

The Indianna Farmer and Gardener contains a notice of this vineyard. It was commenced by Swiss emigrants in 1801 at Vevay, on the banks of the Ohio. Congress granted them land on long credit. They brought their own native vines, and after struggling for years, they gave up the culture of the foreign vine. They turned attention to our native vine, first to the Cape grape, and subsequently to the Isabella and Catawba. After forty years of experience they consider our climate and soil inferior to those of Switzerland for producing saccharine matter, and consequently wine. They say that, in this country, twelve pounds of grapes are required to make a gallon of wine, and, in the old country, ten pounds. At one time they had forty acres under cultivation; now only five. They say they can cultivate other products to greater profits. [*Ibid.*

THE SILK PLANT FROM TRIPOLI.

To the Editor of the American Farmer:

On reading an account of the Silk plant from Tripoli, in Skinner's Journal, I was reminded of an amusing hoax that was practised upon the celebrated Dr. S. L. Mitchell, many years ago. The Dr. was well known to be somewhat visionary as to the future, and an enthusiast in new discoveries and improvements. He received a parcel described as "Illinois cotton, an inidgenous production of the Ohio river bottoms." The Dr. thereupon discoursed most eloquently through the public journals, upon the softness, silkiness, and beauty of the article, its suitableness for manufacturing, and the importance of its culture. The article was afterwards discovered to be entirely worthless—the down that envelopes the seed of the cotton wood, one of our gigantic forrest trees. So long ago as the year 1816, our Professor of Botany, in his lecture on the order Asclipiadæe, described a species of Asclepias that was cultivated in Syria. From the *bark of the plant*, which was treated in a similar manner to that of flax or hemp, was manufactured a beautiful article of *linen with a silky lustre*. And we have a native species of Asclepias, that grows abundantly in our open prairies, known by the name of Indian hemp, the bark of which is capable of forming

a fine, strong and lustrious cord. From these circumstances I am convinced that it is the *bark* of the Silk plant that constitutes its value; and that if the gentleman who first transmitted the seeds, had also described the culture and uses of the plant, much vain speculation would have been saved. N. D. S. of Arkansas.

CALIFORNIA TOBACCO.

Monrovia, Md. Feb. 10th, 1846.

Dear Sirs:—I wish to introduce to your notice, a very fine and peculiar kind of tobacco. I obtained from the Patent Office, through the kindness of a friend of mine, a member of Congress, a very small quantity of seed, which I sowed, and from it I have raised a peck of seed, which I wish to dispose of. This tobacco was procured from California, and is spoken of as a very remarkable large growth; although the last summer was uncommonly dry, this tobacco grew a fine size; it is quick in its growth, and comes to perfection early, carries well, leaf large, texture silky, color fine, bright red or cinnamon. I would recommend its culture in preference to any kind I know of at this time, as a profitable business. It strikes me if this tobacco was well known that it would be highly valued; it has the best leaf that I ever saw for wrapping; if you think it would be desirable to have some of the seed, so as to give an opportunity to the planters throughout the State to procure some of the seed through your agency, please inform me, and the profits shall be divided between us, or you can have the seed by purchase, at your option. As the time for sowing approaches rapidly the seed ought to be forwarded to you immediaely; you can make a trial, and if you cannot succeed we must only put up with the disappointment. Call the attention of the public to it, and I think success will attend the effort. Very respectfully,

WILLIAM HOBBS.

P. S.—The leaves of this tobacco grows thick upon the stalk, which is a very great consideration as to weight. W. H.

☞ The seed are for sale by Messrs. Sinclair & Co., Baltimore.

[*Am. Farmer.*

WINE MANUFACTURE.

The cultivation of the grape for wine, has become a somewhat extensive business in parts of Ohio and Kentucky. Mr. Longworth, of Cincinnati, writes to the American Agriculturist, that his vineyard of nine acres yielded, the past season, the sum of $1779 41 in cash; and that several others in the vicinity were more productive than his.

[*N. E. Farmer.*

POTATO CULTURE.

Wm. R. Latta, of Virginia, informs us that he has tried the plan of cutting potatoes in the middle and planting the two ends separately. The result has been that the sprout or "point" end has produced most, but the "stem" end has given potatoes of the best size, and far superior for table use. Mr. L. also states that he has tried the plan of thinning potatoes. He took a part of a field of potatoes and thinned alternate rows. The number of stalks to the hill was from ten to twelve, and they were thinned to four and five. The effect was to lessen the yield in the rows that were thinned, but the potatoes were of better size and quality.

TO VEGETATE PEACH STONES.

Steep the pits in spirits of wine (alcohol) three hours, and plant them two or three inches deep. The alcohol dissolves the gum which keeps the halves of the pit together, and allows the access of water and heat necessary to germination.

SOUTHERN CULTIVATOR.

PUBLISHED AT AUGUSTA, GEORGIA.

The publishers of this work, without desiring to obtrude upon its friends, deem it due to themselves, no less than to all those who feel an interest in the success of the paper, to state that, thus far, the patronage extended to it, is wholly inadequate to its support—not sufficient to pay the actual expenses of publication!

The publishers have no appeals to make to any; they have entered upon a contract, which they intend to, and *will* fulfil to the letter, by the publication of the 4th volume. That done, their contract ceases, and will not certainly be renewed unless a very different feeling be exhibited in behalf of the work by those to whose interests and prosperity it is devoted.

We would much regret that such should be the end of the "*Southern Cultivator*," as we are fully aware of its great utility—indeed the South cannot afford to loose any of its agricultural papers—for although there may be many subscribers to those printed at the North, yet the generality of readers do not obtain their information from them; but it is through the medium which the exchange of such publications diffuses, that we keep pace with the daily increasing knowledge of the times, and thus prevent our being thrown behind this age of improvement. Therefore, let the friends of Southern agriculture rally to the support of both the Southern Cultivator, and Southern Agriculturist.—*Ed. So. Ag.*

LIST OF PAYMENTS.

Dr H R Frost,	1845	Mr John Ingersall, Miss.,	1846
Mr W G Grignilliat, Darien, Geo	1846	Col Charles E Miller, Walterboro,	1846
Col D J Flacken, Jackson, La.,	1846	Mr John Wilson,	1846
Mr Robert Martin,	1846	Mr James D McFaddin, Sumter,	1846

TO OUR READERS.

We have been favored with a very interesting article on the *Analysis of Soils*, by Prof. SHEPARD, which we recommend to the attention of our readers, and hope that it may be beneficial in a scientific point of view.

MR. SEABROOK's article to the planters and farmers of South-Carolina, will be found full of satisfactory details on things relating to their profession. Although it has been published late, yet it is not too late to be highly appreciated.

The remaining selections will be found to contain the latest agricultural information.

TO OUR SUBSCRIBERS.

We shall continue to publish the names of those generous patrons, who pay us for the *Southern Agriculturist*, because we think they are supporting a work of public utility, and performing the part of patriots. In order to assist those at a distance who have not complied with our frequent calls, we insert a method by which we may get our dues through the Post-office. An order on the Postmaster in Charleston, will be thankfully received; the following is the form:

P. O.,————(Date.)

SIR,—Please pay the Publisher of the Southern Agriculturist, ——— dollars, it being the amount this day deposited by A. B. as subscription money for said paper.

(Signed,) C. D., *Postmaster*.

To the Postmaster at Charleston.

Next, a notice to the Postmaster on whom the order is drawn:—

P. O. ———, (Date.)

SIR,—Mr. A. B., has this day deposited in this office ——— dollars, which you will please pay the publisher of the Southern Agriculturist, on presentation of my order on you for the amount.

Respectfully, yours,

C. D., *Postmaster*.

To the Postmaster at Charleston.

This should be sent under frank to the Postmaster at Charleston, before the money can be drawn.

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